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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,847	02/27/2004	Yusuke Nakamura	25371-021 CIP	8168

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EXAMINER	
BURKHART, MICHAEL D	
ART UNIT	PAPER NUMBER
1633	
MAIL DATE	DELIVERY MODE
09/18/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/788,847	NAKAMURA ET AL.	
	Examiner	Art Unit	
	Michael Burkhart	1633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *6/16/08; 4/4/08*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15 and 62-66* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15, 62-66* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/4/2008 has been entered.

Priority

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 365(c) and 119(e) as follows:

The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

As set forth in the Office Action dated 10/17/2007, the disclosures of prior-filed applications, Application Nos. 60/324,261, 60/391,666 and PCT/JP02/09876, fail to provide adequate support or enablement for the use of small interfering RNAs (siRNA) in the claimed

method, i.e. as recited in claims 62, 64 and 66. The first disclosure of the use of siRNA is found in provisional application, 60/450,644. Applicants present no arguments regarding this lack of disclosure in these priority documents. Hence, claims 64 and embodiments of claim 63 that encompass siRNA are given a priority date of 2/28/2003, the filing date of the 60/450,644 application.

Furthermore, the disclosures of prior-filed applications, Application Nos. 60/450,644, 60/324,261, 60/391,666 and PCT/JP02/09876, fail to provide adequate support or enablement for method steps wherein "control cells that do not express the protein comprising...SEQ ID NO: 2" are cultured in the presence of test compounds and then detected for proliferation. Hence, claims 15, 62, 65 and 66 are given a priority date of 2/27/2004, the filing date of the instant application.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 15, 62, 65 and 66 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. **This is a New Matter rejection.**

Claims 15 and 65 (from which all other claims depend) recite methods steps wherein "control cells that do not express the protein comprising…SEQ ID NO: 2" are cultured in the presence of test compounds and then detected for proliferation. A comparison between the proliferation observed for test cells versus that of control cells then leads to selection of a compound with the claimed properties. The response does not indicate where support for the amended and new claims may be found in the specification as originally filed. A review of the specification does not reveal any such cells used in such method steps, nor a step of comparing the proliferation results between the claimed test and control cells. The best description of the claimed invention is found in ¶'s [0124]-[148] of the published US application, US 2004/0235018. Most of this section is dedicated to screening methods using a recombinant protein and/or methods of finding binding partners of the claimed protein, not to the claimed methods wherein cells expressing the protein are screened for compounds that inhibit the activity or expression of the protein. The disclosure in ¶'s [0141]-[142] most closely matches the claimed invention, and makes no mention of method steps using control cells that do not express SEQ ID NO: 2. Therefore, there appears to be no support for the limitation methods steps wherein "control cells that do not express the protein comprising…SEQ ID NO: 2" are cultured in the presence of test compounds and then detected for proliferation. Thus, the amended claims include impermissible New Matter.

Claims 15, 63 and 65 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for methods of screening for RNAi that inhibit the activity/expression of the protein of SEQ ID NO: 2 in congenic mammalian cells, does not

reasonably provide enablement for methods of screening for any other compound, particularly methods which use "the test compound which binds to the protein, or inhibits expression of the protein." The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims. **This rejection is maintained for reasons made of record in the Office Action dated 5/2/2007, 10/17/2007, and for reasons set forth below.**

It is noted that new claims 63 and 65 recite the use of a "test compound that binds to the protein, or inhibits the expression of the protein." Thus, the claims encompass using a broad genus of compounds that might have the claimed activities, and therefore must disclose such compounds commensurate in scope with the claimed subject matter. The instant specification only discloses a few species of siRNA molecules that inhibit the expression of SEQ ID NO: 2. There is no disclosure of compounds that bind to SEQ ID NO: 2. Other than using RNA interference to target the expression of ZNFN3A1 (SEQ ID NO: 2) as mentioned above, applicants have provided no other working examples of the claimed methods. Applicants provide no direction or guidance for other embodiments of the claimed method, in particular how one of skill in the art could determine, *a priori*, test compounds that bind to SEQ ID NO: 2 or inhibit the expression of SEQ ID NO: 2. The specification requires the skilled artisan to practice trial and error experimentation to identify such test compounds as claimed.

Response to Arguments

Applicant's arguments filed 4/4/2008 have been fully considered but they are not persuasive. Applicants essentially assert that: 1) the claims have been amended to recite a

comparison between control cells that do not express SEQ ID NO: 2 and cells that do, thus, there is no possibility of selecting a compound other than compounds that inhibit ZNFN3A1 in the claimed methods, and point to Example 4 as support for this assertion.

Such is not convincing. The claims are broadly worded to encompass the use of any test cell with any control cell, thus, it is easy to envision the use of a yeast or bacterial cell as a control cell in claim 15, i.e. cells that do not express SEQ ID NO: 2 (human ZNFN3A1). Such cells may not be responsive to the broad spectrum anti-proliferative compounds, such as doxorubicin or anthracycline, set forth in the previous Office Actions. Or, because they do not express SEQ ID NO: 2, using compounds that bind to or inhibit the expression of SEQ ID NO: 2 will have no effect on such cells. If the skilled artisan were to practice the method as claimed with such agents and/or control cells the claim language would require these compounds be labeled as inhibitors of ZNFN3A1 because they would inhibit proliferation of the test cells and not the control cells, even though it is clear that other, more plausible, explanations exist for the differences found in proliferation. Another example is wherein different mammalian cells are used for the test and control cells, e.g. a murine 3T3 cell (does not express SEQ ID NO: 2, which is human) is used as the control cell and a human cancer cell line that expresses SEQ ID NO: 2, such as HT-29, is used as the test cell. Because of the vast genetic differences between these cells, it is easy to envision a situation wherein a given test compound might inhibit proliferation of the human HT-29 cells, but not inhibit the 3T3 cells. Finally, the Example pointed out by applicants demonstrates this point (it is assumed Example 5 is intended to be the support for the claimed methods, as Example 4 is directed to the sub cellular localization of ZNFN3A). In Example 5, NIH 3T3 cells are transfected with expression plasmids encoding ZNFN3A,

antisense ZNFN3A, or a mock vector. Although no test compounds were used in these experiments to ascertain their effect on proliferation of the cells, this is an example of how such congenic mammalian cells would be prepared, i.e. the only difference between the cells in this example is the expression of ZNFN3A, or the lack thereof.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 63-66 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 63 and 65 recite the limitation "the test compound which binds to the protein, or inhibits the expression of the protein" in lines 4 and 5, respectively. There is insufficient antecedent basis for this limitation in the claim. This rejection affects all dependent claims.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Burkhart whose telephone number is (571)272-2915. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Woitach can be reached on (571) 272-0739. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael Burkhart
Art Unit 1633

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